BRUHATH BENGALURU MAHANAGARA PALIKE

EXECUTIVE ENGINEER, YELAHANKLA DIIVISION

Name of Work: Drilling Of Borewells And Providing Water Supply to 110 Villages Area Limits Of Yelahanka Division.

Est Cost 100.00 Lakhs

DETAILED ESTIMATE

SL No	Particulars	Unit	Nos	L in m	B in m	D in m	Quantity	Rate in Rs.	Amount in R
	NEW BOREWELL								
1	Geophysical investigation at site for sinking borewells for Providing drinking water to the habitation either through the Hand Pump MWS or P.W.S.S, by vertical electrical sounding by adopting Venner or Schlumbergers's method, including reconnaissance survey of geological formation. Geophysical investigation of existing ground water in the vicinity, its quality, quantity and acceptability of the users, indicating the location of the site, recommended depth of casing pipe required to seal the top unconsolidated formation including an extra depth of 1.0 metre in consolidated formation for proper seating of casing pipe, depth of drilling required to cover full depth of aquifer proposed to be tapped, probable yield and other information required including transportation of instruments and accessories to work site, engaging technical personal and labour required etc. NOTE: 1) Additional rate on item 1&2 is allowed for drilling in over burden and fixing Casing pipes beyond 20 M (for fixing Casing pipes only) a) Above 20 M and upto 30 M - 15%, b) Above 30 M - 30% (Measurement of overburden is restricted to the depth of casing pipe fixed excluding initial depth of 20M and projection above ground level). 2) A sum of Rs. 100/- is to be deducted for Dry Borewell towards yield test. etc. complete (Page No.140, Sl No.12.4, BWSSB SR 2023-24)								
		Each							
	Sinking borewells		8				8.00		
	Rate Analysis						8.00	5288.00	42304.00
	Basic Rate Rs.	5288.00							
2	Sinking of Borewell of 165mm dia clear using super fast hydraulic rig of capacity 300 PSIG & above 1100 CMF & above in all strata including over burdern upto 20 m. Fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicle, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (Excluding cost of casing pipes, collars, cap etc., complete) (Above 450m of drilling add 10% for every 50m depth) (Page No.139 Sl No.12.1, BWSSB SR 2023-24)								
		rmt							
	a) 0.00 to 50.00 mtrs		8			50.00	400.00	370.00	148000.00
	Rate Analysis								
	Basic Rate Rs.	370.00							
3	b) 50.00 to 100.00 mtrs		8			50.00	400.00	464.00	185600.00
	Rate Analysis								
	Basic Rate Rs.	464.00							
4	c) 100.00 to 150.00 mtrs		8			50.00	400.00	493.00	197200.00
	Rate Analysis								
	Basic Rate Rs.	493.00							
5	d) 150.00 to 200.00 mtrs		8			50.00	400.00	572.00	228800.00
	Rate Analysis								
	Basic Rate Rs.	572.00							
6	e) 200.00 to 250.00 mtrs		8			50.00	400.00	671.00	268400.00
	Rate Analysis								
	Basic Rate Rs.	671.00							
7	f) 250.00 to 300.00 mtrs		8			50.00	400.00	740.00	296000.00
	Rate Analysis								
	Basic Rate Rs.	740.00							
8	g)300.00 to 350.00 mtrs		8			50.00	400.00	868.00	347200.00
	Rate Analysis								
	Basic Rate Rs.	868.00							

SL No	Particulars	Unit	Nos	L in m	B in m	D in m	Quantity	Rate in Rs.	Amount in Rs.
9	Supply of ISI mark 175mm nominal bore,plain and steel casing pipe grade of steel Fe 410 of wall thickness conforming to IS 4270-2001 and latest ammendments, electrical resistance welded steel tubes, material and conforming to IS 1387-1993 and manufactured by basic open hearth electric or basic oxygen process in random length of 5-7m both ends.threaded conforming to IS 554-1985 one end fixed with socket conforming to IS 4270-2001 and the other end with screwed pipes all shall be responsibaly free from defects. The tubes shall be responsible straight end should be with ISI marking weighing 25.10kg/m.prices include Collar-Medium duty. (Page No.143, It no.12.32, BWSSB Sr-2023-24)								
	a) Casing Pipe	rmt							
	For new borewells		8			60.00	480.00		
						Total Qty	480.00	1933.00	927840.00
	Rate Analysis								
	Basic Rate Rs.	1933.00							
10	Providing,supplying to work site, Submersible Pump Set of 150mm dia suitable for bore well and confirming to IS 8034-2000;3Phase, SS Bowl & Impeller with Low volt Motor as per specifications,as per necessary ammendments and instructions of engineer incharge of work. 15.00 HP - 120 LPM @ 266 m = 23 STG Outlet Dia - 2.00" [P.153, I.No-13.18.6) Vol-5 BWSSB.SR 2023-24]								
		Nos							
			8				8.00	69344.00	554752.00
	Rate Analysis								
	Basic Rate Rs.	69344.00							
11	Supplying and Drawing 3 Core Flat PVC Shelted Submerisible Pump Cable Manufactured With Electrolytic grade copper with flexible copper conductor confirming to table 3 class 5of IS 8130-1984 and Virgin PVC insulation and Sheeated Suitable for working Voltage Upto 1100 Volts as per IS-694:1990. 3C x 6.0Sqm (Page No:7 Iten No:2.6.3 ELE SR SR 2023-24)								
	for new borewells	mtr	8	2	320		5120.00		
	For Existing Borewell		7	2	137		1918.00		
							7038.00	245.00	1724310.00
12	Supply and delivery at site of brand new best make non-return valve as per IS 778/1984 with ISI Mark and as per its latest amendments Size 50mm dia (BWSSB SR 2023-24, P.154, I-13.25.1)								
		Each							
			8				8.00	1250.00	10000.00
	Rate Analysis								
	Basic Rate Rs.	1250.00							
13	Supply and delivery at site of brand new best make gate valve as per IS 778/1984 with ISI Mark and as per its latest amendments Size 50 mm (Page No.154 Item No.13.24.1, BWSSB SR- 2023-24)								
		Nos							
			8				8.00	1250.00	10000.00
	Rate Analysis								
	Basic Rate Rs.	1250.00							
14	Providing wrought mild steel (galvanized) GI collar confirming to IS 1239-II, 1991 with latest amendments if any For 50 mm dia GI collar(P.129, I.No-11.6.6) Vol-5 BWSSB.SR 2023-24								
		Nos							
	Rate Analysis		8	1.00			8.00	267.00	2136.00
	Basic Rate Rs.	267.00							

	Particulars	Unit	Nos	L in m	B in m	D in m	Quantity	Rate in Rs.	Amount in Rs.
	Supply and delivery of galvanized mild steel tubes of 6mtr standard length heavy duty (C Class) as per IS 1239 (Part-I) 1990 with latest amendments with ISI Mark 50mm [P.155, I.No-13.27.1) Vol-5 BWSSB.SR 2023-24]								
		Each							
			8	52.00			416.00		
	For Existing Borewell		7	23.00			161.00		
							577.00	3050.00	1759850.00
	Rate Analysis								
	Basic Rate Rs.	3050.00							
	Supply and delivery at site wrought middle steel (galvanized) 50 mm dia GI elbow confirming to IS 1239-II, 1991 with latest amendments if any for: (P.129, I.No-11.7.6) Vol-5 BWSSB.SR 2023-24								
		Each							
			8				8.00	267.00	2136.00
	Rate Analysis								
	Basic Rate Rs.	267.00							
17	Supply, installing,testing and commissioning COMMON control panel consisting of the following INCOMING:1 No set of Phase indicating lamps with SFU of suitable rating 1 No, Analog Ammeter, 1 No Analog Voltmeter 1ni with Phase selector switch, Isolating switch OUTGOING for Main Electrical Pump: 1 No. MCB 1 No. DOL of S/D Starter suitable for respective HP 1 No. Electrcal Protection Like single Phase preventor, under voltage over Volage, under current over current & dry run protection suitable for the pump described above 1 no Indoor type NOTE: 1) DOL- Direct Online Starter 2) S-D-Star Delta Starter etc. complete.6 to 15 HP pumps (BWSSB, SR 2023-24, P-155, Item No.13.23.3)								
		Each							
			8				8.00	15900.00	127200.00
	Rate Analysis								
	Basic Rate Rs.	15900.00							
18	Labour charges for Erection, Electrification and commissioning of Pump sets, including aligning and balancing of all items including supply and erection of two pair of supporting clamps, bore well caps, cable clips and water tight gland cable protectors, bolts, nuts, valve and gauges,tools and equipments etc., involved in the job as per specifications, with necessary tests as per specifications, with testing of as per instructions of engineer incharge of work. (Page No.156 / Item No. 13.32, BWSSB SR-2023-24)								
		Job							
			8				8.00	6500.00	52000.00
	Rate Analysis								
	Basic Rate Rs.	6500.00							
19	Supply and fixing polished wood board made of not less than 15mm thick plank on both sides of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws. F) 20" x 20" x 2.5" (PWD Electrical SR 2023-24 P-14, I-5.6.6)								
		Each							
			8				8.00		
	For Existing Borewell		6				6.00		
							14.00	326.13	4565.82
	Rate Analysis								
	Basic Rate Rs.	326.13							
20	Labour charges for erection of outdoor type panel board and meter board units with all necessary materials and labour, tools and equipments including providing cement concrete foundation bed etc., complete as per specification, with testing of as per instructions of engineer incharge of work. (Page No.156 / Item No. 13.34, BWSSB SR-2023-24)								
		Job							

SL No	Particulars	Unit	Nos	L in m	B in m	D in m	Quantity	Rate in Rs.	Amount in Rs.
			8				8.00		
	For Existing Borewell		6				6.00		
							14.00	1450.00	20300.00
	Rate Analysis								
	Basic Rate Rs.	1450.00							
21	Earthing: Suppluing and fixing and wiring earth electrode for grounding circuits IC cutouts and other equipments on the meter board in the pit. The pits should be filled up with equal proportion of salt and charcoal 150mm around the pipe to complete depth. The connection from the pipe to the conduits etc. is to established through GI wire of sizes as per clause 7.3.3 of IS 732 using 12mm bolts,nuts, washers and check nuts, the pipe shall have 16 through holes of 12mm dia. (PWD Electrical SR 2022-23, P-54, Item No.12.56)								
		Job							
			8				8.00	3510.00	28080.00
	Rate Analysis								
	Basic Rate Rs.	3510.00							
22	Supplying & fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. (PWD Electrical SR 2023-24 P-18, I- 5.18.9)								
		Each							
			8				8.00	3088.00	24704.00
	Rate Analysis								
	Basic Rate Rs.	3088.00							
23	Supply and delivery at site brand new best make starter/ control panel suitable for following HP centrifugal pump confirming with ISI mark and its latest amendments. 10 to 12 HP centrifugal pump (Page No. 158 / Item No. 13.43.3, BWSSB SR 2023-24)								
		Each							
			8				8.00	35650.00	285200.00
	Rate Analysis								
	Basic Rate Rs.	35650.00							
24	Yield testing of borewells at final depth with a minimum of 10 hours continuously with the help of pump testing unit including the cost of transportation charges, crew charges and cost of consumables. (Sl No.12.9, Page No.140, BWSSB SR 2023-24)								
		Each							
			8				8.00	16306.00	130448.00
	Rate Analysis								
	Basic Rate Rs.	16306.00							
25	1.1 kV, XLPE or Heat resistant PVC insulated, PVC exutruted Inner Seath Armoured LTUG Cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975 16 Sqmm, 4 Core, (11 GI Strips - 4 x 0.8 mm) (P.13, Sl. no-201, I.No-32.05) Vol-VI ESCOM.SR [CSR-2023-24]								
		Km	8	30.00			240.00		
							0.24	141842.00	34043.00
	Basic Rate Rs.	141842.00							
26	LABOUR For Stringing of 1.1 kV grade Aerial Bunched 3 Core cable of XLPE insulation of size (3x95) (Phase Conductor) + (1x70) (Insulated Messenger Neutral) + (1x16) (Street Light Control) (P.53, Sl. no-208, I.No-24.03) Vol-VI ESCOM.SR [CSR-2023-24]								
		Km	8	30.00			240.00		
							0.24	33109.00	7947.00
	Basic Rate Rs.	33109.00							
27	Supplying of TPST with rewirable porcelain channels in SM enclosure. Made out of 14 SWG powder coated paint of approved colour. 32A (Page No-14 , Item No-5.5.1, ELE SR 2023-24)								
		Nos							

Particulars	Unit	Nos	L in m	B in m	D in m	Quantity	Rate in Rs.	Amount in Rs.
Supplying and fixing LED Type panel board indicating lamp with required colour Suitable for 220 V AC 50Hz 12/24 V DC Group 'A' (Page No-19 , Item No-5.38, ELE SR 2023-24)								
	Nos							
		8						
Basic Rate Rs.	515.00					8.00	515.00	4120.00
Supplying & fixing of Porcelain fuse channel with cutout on existing wooden/panel using necessary nuts, bolts and washers. (PWD Electrical SR 2023-24 P-14, I-5.7.3)								
	Each							
		8	6.00					
Basic Rate Rs.	401.00					48.00	401.00	19248.00
Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. Flat.....with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint. 40 x 40 x 6 mm (PWD Electrical SR 2023-24 , Page NO:20, Item No:5.41.1).(Per leg 2. 5MtrX2 Nos legs)-5.00 Mtr Per Box								
	rmt							
		8	5.00					
Basic Rate Rs.	305.00					40.00	305.00	12200.00
Supplying Fully Automatic Star- Delta Starter Unit Push Button Type With Suitable Wires 3 Contractors, One Adjustable Thermal Timer Mounted on a Common Base Plate held in Steel Enclosure For Use on 400/440 Volts 3 Phase and Wired after Fixing to the Exisiting Wooden Board For Motor, Above 12.5 HP upto 25 HP (Page No-14 , Item No-5.2.2, ELE SR 2023-24)								
	Nos							
1) Group "A" upto 15 HP		8				8.00		
Existing Borewell		5				5.00		
						13.00	8764.00	113932.00
Basic Rate Rs.	8764.00							
Earth work excavation for pipelines/cables by Manual means upto 600 mm trench width, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, including dressing of excavated surfaces, disposing off or leveling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m. Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering and lift upto 1.5 m including cost of labour, tools, usage& other appurtenances required to complete the work. In all kinds of soils. Depth upto 1.50m (KPWD SR 2023-24, V-I, Page No.6, Item No.1.6.1)								
Rate Analysis	Cum							
Basic Rate Rs.	484.00							
Area weightage 10%	48.40							
Total Amount Rs.	532.40							
		1	1000.00	0.60	0.90	540.00		
					Total Qty	540.00	532.40	287496.00
Providing PVC ringtite pipes conforming to IS 985:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line and level and perfect linking at joints, testing and commissioning, including loading unloading at both destinations and cuts of pipes wherever necessary including jointing of PVC pipes and specials (excluding cost of specials) with jointing of approved type, with all labour with all lead & lift including encasing the pipe alround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excavation etc. complete and giving necessary hydraulic test to the required pressure as per ISS (Contractor will make his own arrangements for procuring water for testing) etc. complete For: PVC pipes 50mm dia., 6 kg/sqcm & class 5 (BWSSB SR 2023-24, Page No.113 Item No.10.1.3)								
	Mtrs							
		1	1000.00			1000.00		
Basic Rate Rs.	101.00				Total Qty	1000.00	101.00	101000.00

SL No	Particulars	Unit	Nos	L in m	B in m	D in m	Quantity	Rate in Rs.	Amount in Rs.
34	Refilling available earth around trenches/pipelines, cables in layers not exceeding 20 cms in depth, compacting each deposited layer by ramming after watering with a lead upto 50 m, and lift upto 1.5 m. Including cost of all labour complete as per specifications (KPWD SR 2023-24, V-I, Page No.7, Item No.1.10)								
	Rate Analysis	Cum							
	Basic Rate Rs.	160.00							
	Area weightage 10%	16.00							
	Total Amount Rs.	176.00							
			1	1000.00	0.60	0.75	450.00		
							450.00	176.00	79200.00
35	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density (V-III, P.No-26,I No-4.17)of PWD SR 2023-24)								
			1	1000.00	0.60	0.15	90.00		
							90.00	2814.90	253341.00
	Basic Rate	2559.00							
	10% Area Weightage	255.90							
	Total	2814.90							
								Total Construction Cost	8303160.82
								Add GST Charges 18%	1494568.95
								BESCOM Charges 8*25000	200000.00
								Sub Total-2	9997729.77
								Misc and rounding off	2270.23
								Grand Total Amount	10000000.00

Certificate:

1. The work spot has been inspected and found to be necessary
2. The provisions made in the estimate are necessary and minimum
3. The estimate is based on CSR of 2023-24 (KPWD, ELE, BWSSB)

Assistant Engineer

BBMP, Bangalore

Assistant Executive Engineer
Yelahanka Sub Division
BBMP, Bangalore

Executive Engineer
Yelahanka Division
BBMP, Bangalore

Administrative Sanction for Rs. 100.00 lakhs.....
.....hundred lakhs only.....
.....
is accorded under head .....P-1802.....
.....
.....
Registered as CE No. ..... Subject to conditions contained in enclosed memo
No.BBMP/EE/YND/AS/35/2024-25 Dt.06/11/2024

Executive Engineer

Technical Sanction
Accorded For Rs.100 lakhs
Head of A/C...P-1802...
CER NO :....122..... Dt.06/11/2024